

CLAIMS

What is claimed is:

- sub 02
- 1 1. A method of removing a particle from a metal layer over a substrate comprising:
2 depositing a first agent onto the substrate;
3 polishing the metal layer with the first agent; and
4 introducing a second agent comprising hydrogen peroxide onto the metal layer.
 - 1 2. The method of claim 1, wherein polishing the metal layer comprises polishing a metal
2 material selected from the group consisting of tungsten and copper.
 - 1 3. The method of claim 1, wherein polishing the metal layer comprises polishing with the
2 first agent having an abrasive material selected from the group consisting of silica, alumina,
3 zirconia, and ceria.
 - 1 4. The method of claim 1, wherein polishing comprises chemical mechanical polishing.
 - 1 5. The method of claim 1, wherein introducing the second agent occurs after the operation of
2 polishing the metal layer and the substrate.
 - 1 6. The method of claim 1, wherein introducing the second agent comprises introducing a
2 second agent of approximately 4% by volume or less of hydrogen peroxide.
 - 1 7. The method of claim 1, further comprising polishing the substrate with the second agent.
 - 1 8. The method of claim 1, wherein polishing the metal layer with the second agent includes
2 polishing with a polisher operating at a polishing pressure approximately in the range of 0.5 to
3 2.0 psi.
 - 1 9. A method of removing at least one particle from a portion of a metal layer on a substrate
2 comprising:
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3 depositing a slurry onto the substrate;
4 polishing the metal layer and the substrate; and
5 rinsing the substrate with a solution comprising hydrogen peroxide.

1 10. The method of claim 9, wherein polishing the metal layer comprises polishing a metal
2 material selected from the group consisting of tungsten, copper, and aluminum.

1 11. The method of claim 9, wherein depositing the slurry further comprises depositing a
2 slurry having an abrasive material selected from the group consisting of silica, alumina, zirconia,
3 and ceria.

1 12. The method of claim 9, wherein rinsing the substrate occurs after polishing the metal layer
2 and substrate.

1 13. The method of claim 9, wherein rinsing the substrate comprises rinsing with the solution
2 which comprises approximately 4% by volume or less of hydrogen peroxide.

1 14. The method of claim 9, wherein polishing the metal layer includes removing the metal
2 layer at a rate of approximately in the range of 40Å/minute to 80Å/minute.

1 15. The method of claim 9, wherein polishing comprises chemical mechanical polishing.

1 16. The method of claim 9, wherein rinsing occurs during polishing; and
2 polishing comprises polishing with a polisher at a polishing pressure approximately in the
3 range of 0.5 to 2.0 psi.

1 17. The method of claim 16, wherein the metal layer is removed at a rate of 60Å/minute.

1 18. A method of polishing a metal layer on a substrate comprising:
2 polishing the metal layer and introducing a rinsing solution onto the metal layer, the
3 rinsing solution comprising hydrogen peroxide.

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- 1 19. The method of claim 18, further including polishing the substrate with an abrasive
2 material, wherein the rinsing solution is introduced after a polishing of the substrate.
- 1 20. The method of claim 18, wherein introducing a rinsing solution comprises introducing a
2 rinsing solution of approximately 4% by volume or less of hydrogen peroxide.
- 1 21. The method of claim 18, wherein introducing a rinsing solution occurs during polishing the
2 metal layer in which a polishing pressure is used approximately in the range of 0.5 to 2.0 psi.
- 1 22. The method of claim 18, wherein a metal layer is removed at a rate of 60Å/minute.